

## CLAIMS

What is claimed is:

1. A method of full-duplex recording for a communications handset  
5 comprising steps of:  
    receiving a first stream of encoded information frames;  
    receiving a stream of information samples;  
    encoding the stream of information samples to generate an additional stream  
of encoded information frames; and  
10      generating a single stream of encoded information frames from the first  
stream of encoded information frames and the additional stream of encoded  
information frames.
2. The method of Claim 1 wherein each frame in the single stream of  
15 encoded information frames includes a flag for selecting how frames in the single  
stream of encoded information frames will be used for playback.
3. The method of Claim 2 further comprising a step of storing the  
single stream of encoded information frames in memory.  
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4. The method of Claim 1 wherein the step of generating a single  
stream of encoded information frames comprises generating a speaker record  
decision signal.
- 25      5. The method of Claim 4 wherein the speaker record decision signal  
is a voice activity signal generated as a function of the additional stream of encoded  
information frames or the first stream of encoded information frames or the stream  
of information samples .
- 30      6. The method of Claim 4 wherein the step of generating the single  
stream of encoded information frames comprises selecting an encoded information  
frame from the first stream of encoded information frames in response to the speaker  
record decision signal.

7. The method of Claim 4 wherein the speaker record decision signal is a voice activity signal generated as a function of a stream of samples decoded from the first stream of encoded information frames.

5                   8. The method of Claim 1 wherein the step of generating a single stream of encoded information frames comprises a step of generating a microphone record decision signal.

10                   9. The method of Claim 8 wherein the microphone record decision signal is a voice activity signal generated as a function of the stream of information samples or the first stream of encoded information frames or the additional stream of encoded information frames or a stream samples decoded from the first stream of encoded information frames.

15                   10. The method of Claim 8 wherein the step of generating the single stream of encoded information frames comprises selecting an encoded information frame from the additional stream of encoded information frames in response to the microphone record decision signal.

20                   11. The method of Claim 10 wherein the step of generating the single stream of encoded information frames comprises setting an overlap flag in an encoded information frame in the single stream of encoded information frames in response to at least one of the microphone record decision signal and a speaker record decision signal.

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12. The method of Claim 1 further comprising steps of:  
retrieving a first recorded encoded information frame from the single stream  
of recorded encoded information frames;  
decoding the first recorded encoded information frame to generate a first  
5 decoded information frame;  
retrieving an additional recorded encoded information frame from the single  
stream of recorded encoded information frames;  
decoding the additional recorded encoded information frame to generate an  
additional decoded information frame; and  
10 generating a playback information frame from the first decoded information  
frame and the additional decoded information frame.

13. The method of Claim 12 wherein the step of generating a  
playback information frame comprises mixing the first decoded information frame  
15 and the additional decoded information frame.

14. The method of Claim 12 wherein the step of generating a  
playback information frame comprises concatenating the first decoded information  
frame and the additional decoded information frame.  
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15. The method of Claim 12 further comprising a step of buffering  
the playback information frame.

16. The method of Claim 15 further comprising a step of converting  
25 the playback information frame to a sensible signal.

17. A full duplex recorder for a communications device comprising:  
an encoder for receiving a stream of information samples and for generating  
a first stream of encoded information frames; and  
30 an information combiner coupled to the encoder for receiving an  
additional stream of encoded information frames and the first stream of encoded  
information frames to generate a single stream of encoded information frames.

18. The full duplex recorder of Claim 17 further comprising a decoder for receiving the additional stream of encoded information frames and for generating a stream of decoded information frames.

5                   19. The full duplex recorder of Claim 17 further comprising a memory coupled to the information combiner for storing the single stream of encoded information frames.

20                   20. The full duplex recorder of Claim 19 further comprising a playback decoder coupled to the memory for retrieving the single stream of encoded information frames and for generating a stream of playback frames from the single stream of encoded information frames.

15                   21. The full duplex recorder of Claim 18 further comprising a speaker record decision block coupled to the decoder for generating a speaker record decision signal from the stream of decoded information frames or the first stream of encoded information frames or the additional stream of encoded information frames or the stream of information samples.

20                   22. The full duplex recorder of Claim 21 wherein the information combiner selects a recorded information frame from the first stream of encoded information frames in response to the speaker record decision signal.

25                   23. The full duplex recorder of Claim 17 further comprising a microphone record decision block coupled to the encoder for generating a microphone record decision signal from the stream of information samples or the encoded information frames or the decoded stream of encoded information frames or the additional stream of encoded information frames.

30                   24. The full duplex recorder of Claim 23 wherein the information combiner selects an encoded information frame from the additional stream of encoded information frames in response to the microphone record decision signal.